

CLAIMS

1. A method for controlling in closed loop an analog system (12) generating an output signal (S') from a control signal (N_C), wherein the control signal (N_C) is a series of digital values, each new digital value being determined from the difference
5 between a signal linked to the output signal (S') and the last determined value of the control signal (N_C) multiplied by a selected factor.
2. The control method of claim 1, wherein the analog system (12) generates an analog output signal (S') and is controlled by an analog control signal (V_C)
10 corresponding to the conversion of the digital control signal (N_C), said digital control signal (N_C) being provided by a digital system (42) which generates successive values of the digital control signal (N_C) based on a reference signal (P_{REF}) and on a digital detection signal (N''_D) corresponding to the conversion of an analog detection signal (V''_D), a new value of the digital control signal (N_C) being determined according to
15 the steps of:
 - measuring an analog signal (V_D) representative of the analog output signal (S');
 - determining the analog detection signal (V''_D) based on the difference between the representative analog signal (V_D) and the analog control signal (V_C) multiplied by the selected factor;
 - 20 - converting the analog detection signal (V''_D) into a new digital detection signal value (N''_D); and
 - calculating the new value of the digital control signal (N_C) based on said new value of the digital detection signal (N''_D) and on the last previously-determined value of the digital control signal (N_C).
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3. The method of claim 2, wherein the representative analog signal (V_D) and the analog control signal (V_C) have the same sign, the analog detection signal (V''_D) corresponding to the difference between the representative analog signal (V_D) and the analog control signal (V_C) multiplied by an amplification coefficient (K).
- 30 4. The method of claim 1, wherein the analog output signal (S') is a variable voltage.

5. The method of claim 2, wherein the representative analog signal (V_D) is a positive voltage substantially equal to the maximum value of the analog output signal (S').

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6. The method of claim 2, wherein the reference signal (P_{REF}) is representative of the desired power of the analog output signal (S').

7. The method of claim 3, wherein the amplification coefficient (K) is
10 constant.

8. The method of claim 3, wherein the amplification coefficient (K) depends on the operating conditions of the digital system (12).

15 9. A device for controlling an analog system (12) a providing an analog output signal (S'), comprising:

a digital system (42) providing a digital control signal (N_C);

a digital-to-analog converter (16) receiving the digital control signal (N_C) and providing an analog control signal (V_C) to the analog system (12);

20 a sensor (20) measuring an analog signal (V_D) representative of the analog output signal (S');

a comparator (46) providing an analog detection signal (V''_D) based on the representative analog signal (V_D) and on the analog control signal (V_C); and

25 an analog-to-digital converter (47) converting the analog detection signal (V''_D) into a digital detection signal (N''_D) provided to the digital system (42), said digital system determining the digital control signal (N_C) based on a reference signal (P_{REF}) and on the digital detection signal (N''_D).

10 10. The device of claim 9, wherein the analog system (12) is an amplifier of signals of a portable telephone.